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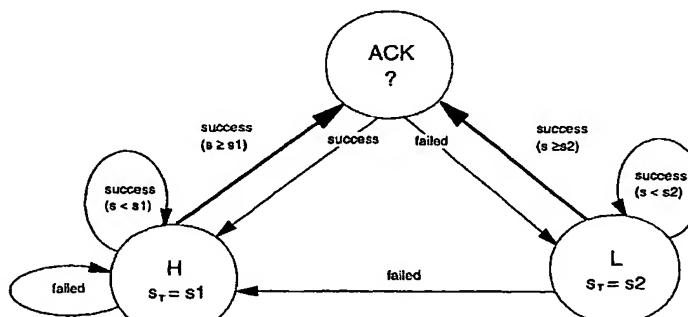


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- (51) International Patent Classification⁷:** H04L 1/00 **RJ (BR). TRUONG, Hong, Linh [DE/CH]; Riferstrasse 30b, CH-8134 Adliswil (CH).**
- (21) International Application Number:** PCT/IB2003/002784 **(74) Agents:** KLETT, Peter, M. et al.; International Business Machines Corporation, Saeumerstrasse 4 / Postfach, CH-8803 Rueschlikon (CH).
- (22) International Filing Date:** 17 June 2003 (17.06.2003) **(81) Designated States (national):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (25) Filing Language:** English **(84) Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (26) Publication Language:** English
- (30) Priority Data:**
02014411.9 28 June 2002 (28.06.2002) EP
- (71) Applicant (for all designated States except US):** INTERNATIONAL BUSINESS MACHINES CORPORATION [US/US]; New Orchard Road, Armonk, NY 10504 (US).
- (72) Inventors; and**
- (75) Inventors/Applicants (for US only):** JELITTO, Jens [DE/CH]; Saeumerstrasse 11, CH-8803 Rueschlikon (CH). NOLL BARRETO, Andre [BR/BR]; R. Gustavo Sampaio 194 ap. 303, CEP-22010-010 Rio de Janeiro,

*[Continued on next page]***(54) Title:** LINK ADAPTATION

failed: $s := 0, f_+, \text{ and}$
 $\text{if } f \geq f_1, \text{ then down rate and } f := 0$
success: $s_+, f := 0, \text{ and}$
 $\text{if in state H: } s \geq s_1 \text{ or in state L: } s \geq s_2, \text{ then up rate and } s := 0$

e.g.: $f_1 = 1, s_1 = 3, s_2 = 10$

(57) Abstract: The present invention discloses an apparatus and method for adapting a transmission parameter in a transmitting node of a data communication system to the current link quality of a data communication channel. The adapted transmission parameter is selected by the transmitting node from a set of transmission parameters in dependence on a number of successful transmissions. The number of successful transmissions is compared in the transmitting node against one of a first threshold value corresponding to a first state of the transmitting node and a second threshold value corresponding to a second state of the transmitting node. The method comprises in the transmitting node the steps of (a) counting the number of successful transmissions; (b) selecting the adapted transmission parameter (bl) in response to the number of successful transmissions equaling or exceeding the first threshold value when the transmitting node is in the first state, and (b2) in response to the number of successful transmissions equaling or exceeding the second threshold value when the transmitting node is in the second state; and in dependence of the result of a following transmission, operating the transmitting node in one of the first state and the second state.

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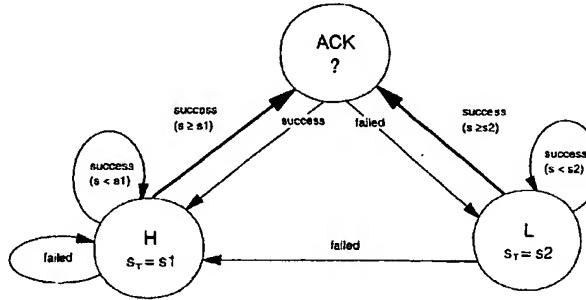
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[Continued on next page]

(54) Title: LINK ADAPTATION



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A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, IBM-TDB, INSPEC, COMPENDEX, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	YU-DONG YAO: "AN EFFECTIVE GO-BACK-N ARQ SCHEME FOR VARIABLE-ERROR-RATE CHANNELS" IEEE TRANSACTIONS ON COMMUNICATIONS, IEEE INC. NEW YORK, US, vol. 43, no. 1, 1995, pages 20-23, XP000487372 ISSN: 0090-6778 page 20, right-hand column, line 8 - line 29 --- WO 02 25856 A (APERTO NETWORKS INC) 28 March 2002 (2002-03-28) page 10, line 29 -page 12, line 22 --- -/--	1-12
Y		1-12

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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- *A* document defining the general state of the art which is not considered to be of particular relevance
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INTERNATIONAL SEARCH REPORT

Int'l. Appl. No.	PCT/IB 03/02784
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>ANNAMALAI A ET AL: "ANALYSIS AND OPTIMIZATION OF ADAPTIVE MULTICOPY TRANSMISSION ARQ PROTOCOLS FOR TIME-VARYING CHANNELS" IEEE TRANSACTIONS ON COMMUNICATIONS, IEEE INC. NEW YORK, US, vol. 46, no. 10, 1 October 1998 (1998-10-01), pages 1356-1368, XP000791606 ISSN: 0090-6778 page 1356, right-hand column, last line page 1357, left-hand column, line 4 -right-hand column, line 1</p> <p>-----</p>	1-12
A	<p>EP 1 054 526 A (LUCENT TECHNOLOGIES INC) 22 November 2000 (2000-11-22) paragraph '0011! - paragraph '0015!</p> <p>-----</p>	1-12
A	<p>EP 1 195 936 A (MATSUSHITA ELECTRIC IND CO LTD) 10 April 2002 (2002-04-10) paragraph '0006!</p> <p>-----</p>	1-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int'l. Appl. No.

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